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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,024	08/29/2006	Nikolai Filimonov	9342-346	6690

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RALEIGH, NC 27627

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT	PAPER NUMBER
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2815

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/553,024

Applicant(s)

FILIMONOV ET AL.

Examiner

Michael B. Shingleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 3 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

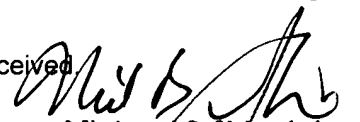
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


Michael B. Shingleton
Primary Examiner
Group Art Unit 2815

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/05 one sheet.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6, 10, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aihara US 5909,643 (Aihara).

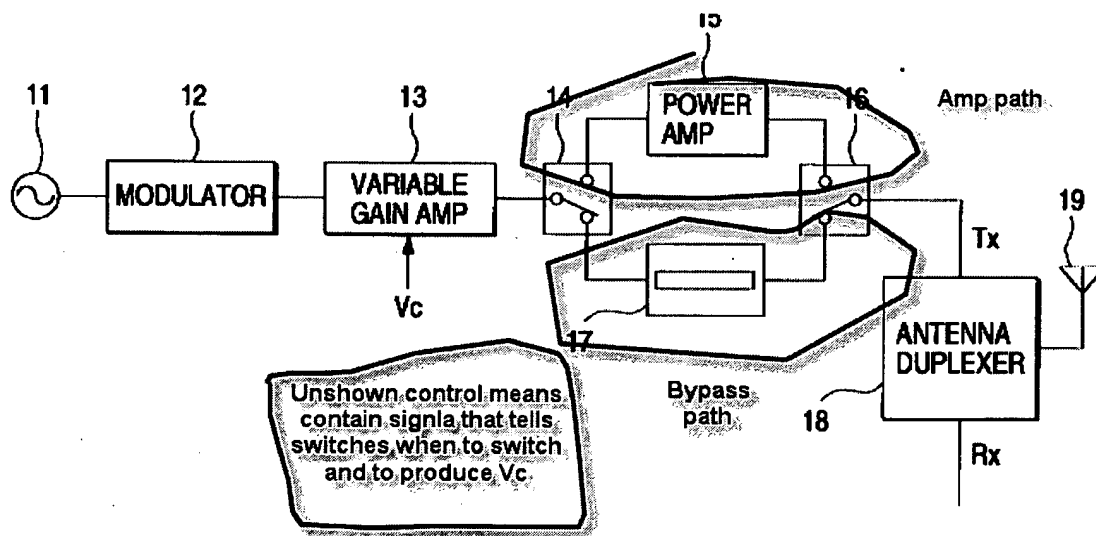


Figure 1 of Aihara.

Figures 1, 3, 4, 5, 6 and 7 as well as the relevant text of Aihara discloses the basis invention set forth by the claims. Rather than describe each and every Figure of Aihara that meets the claims in detail, the examiner in the interest of being concise will only use exemplary Figure 1 of Aihara to describe how the claimed invention is met by the prior art. Similar reasoning does apply to the other Figures of Aihara. Clearly, the circuit of provides for the step of amplifying an RF signal by the use of a power amplifier arrangement. As shown above there is an input terminal that supplies an input signal, an output terminal that outputs an RF signal, an amplification path that amplifies, a bypass path that bypasses, an a delay

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control means that while is unshown is clearly present in Aihara so as to control the switches 14 and 16 and the variable amplifier 13 that “pre-amplifies” the input RF signal. Aihara inherently has such a “delay control means” for there must be something that provides the signal for the switching and the amount of variable gain to be chosen or selected. Thus there is a control terminal, i.e. node that controls the operation of the amplification path and the bypass path. It then goes without saying that this control terminal, i.e. node, will be “configured” such that it controls the operation of the variable gain amplifier, the amplification path and the bypass path in combination to select the particular power level i.e. state.

The PCT search report of record states that the claim language that specifically recites the “inverse state” is unclear. The examiner respectfully disagrees for even though the specification fails to specifically define the inverse of the first or second state depending on the claim, when there is no specific limiting definition in the specification MPEP 2111.01 is absolutely clear that the plain meaning must be given to the terms in the claim. Thus looking at claim 1 for example the first state corresponds to a particular energy level recited as “power specified”. Well, the inverse of this first state can only be exactly equal to one divided over the “power specified” for this is what the inverse of the first state is. For example lets say that the first state is five(5) Watts then the inverse of five(5) Watts would be one over five(5) Watts or a fifth of a Watt (5^{th} Watt). The examiner just does not see how the PCT search report can even state that these claims are unclear when it is absolutely perfectly clear that the power level that defines one state has to be exactly the inverse of the other power level that defines another state. Alh, however, is silent on saying that the one power level i.e. one state, is the inverse of the other. The examiner does not see how this could possibly patentably define over the prior art because this is merely setting forth how much attenuation is desired in the by-pass path. It is merely the selection of the optimum or workable range that has been long held to involve but routine skill in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have one state the inverse of the other state, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105, USPQ 233.

Claim 2 and the “mirror” type claim 11 in the method set of claims sets forth how fast the control means entitled “delay control means” changes the power levels i.e. states. This is a similar situation to that above for Aihara is silent on saying how fast the control means operates but selecting how fast the control means operates is merely the choosing of the optimum value for a particular use. This is merely selecting the result effective variables one of routine skill would do in implementing the circuit. In other

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words the selection of result effective variables like how fast the transistors, how large the capacitors are, how large the inductors are etc. merely selects how fast the control circuit reacts. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the values of the circuit components that make up the delay control means in Aihara to provide the speed as claimed, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 4, 5, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aihara US 5909,643 (Aihara) in view of Iskawa et al. US 5,982,236 (Iskawa).

In addition to that above, claims 4, 5, 13 and 14 recite a first matching circuit, a second matching circuit, a third matching circuit, a controllable second switch that adjusts the impedance of the amplification path to pass the RF signal there through, i.e. amplify or block the RF signal and a first controllable switch that adjusts the impedance of the bypass path to control the passage of the RF signal. The switches 14 and 16 clearly provides for these functions as recited from the first and second switches of claims 4, 5, 13 and 14.

Providing matching circuits prior to and after amplifiers or other circuits is just common engineering sense for this improves power transfer through the device. In other words without matching and there is a mismatch then there will be a reflection of power due to the change in the impedance. See elements 1, 2 and 3 of Ishikawa.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide matching circuits prior to and after then amplifiers and the prior to and after the bypass path so as to provide efficient energy transfer to the output of the device as taught by Ishikawa.

Allowable Subject Matter

Claims 3 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The primary reference to Aihara above as cited above is silent on the details of the delay control means i.e. the control circuit that provides for the control of the two paths and the pre-stage amplifier 13. Claims 3 and 12 recite a specific latch structure and latching function that is just not taught or suggested in the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

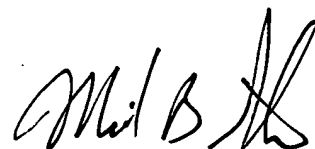
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker, can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

March 31, 2007

A handwritten signature in black ink, appearing to read "Michael B Shingleton", with a stylized flourish at the end.

Michael B Shingleton
Primary Examiner
Group Art Unit 2815